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EXAMINER

CHANKONG, DOHM

ART UNIT

PAPER NUMBER

2152

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/844,856

Applicant(s)

GARCIA-LUNA-ACEVES ET AL.

Examiner

Dohm Chankong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9 and 11-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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DETAILED ACTION

1> This action is in response to Applicant's RCE. Claims 1, 3-9 and 11-14 are presented for further examination.

2> This is a non-final rejection.

Continued Examination Under 37 CFR 1.114

3> A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8.24.2005 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4> Claims 1, 3-9 and 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In particular the independent claims discuss resolving the anycast address to a unicast address. However as is well known in the art, an anycast address is merely a

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unicast address that can be shared across multiple devices or pieces of content. Such an implementation allows for layer of fault tolerance and improved efficiency in responding to client requests. That is, if a client submits a request to an anycast address that is shared by multiple servers, the closest server with the address can be selected to service the request; if this server is unable, then the next closest server that shares the anycast address can be selected. However, it seems that an anycast address is a unicast address and therefore, by definition, an anycast address for an object is necessarily also the unicast address for an object.

So based on knowledge well known in the art, it seems the claimed resolving step would be gratuitous since an anycast address for an object and a unicast address for an object are one in the same.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5> Claims 1, 3-9 and 11 are rejected under 35 U.S.C § 102(e) as being anticipated by

McCanne et al, U.S Patent No. 6,785,704 ["McCanne.2"]

6> As to claim 1, McCanne.2 discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 23 «lines 14-17» | column 25 «lines 57-66» where : McCanne.2's cache corresponds to a repository]; and

mapping the URL to a corresponding anycast address for the information object [column 23 «lines 14-17 and 56-60» | column 26 «lines 25-27» where : the cache resolves the URL to an anycast address for the web servers that have the requested content].

resolving the anycast address for the information object to a unicast address for the information object [column 21 «lines 9-16» | column 23 «lines 54-67»]; and

obtaining a copy of the information object at the corresponding unicast address [column 23 «lines 54-67»].

7> As to claim 3, McCanne discloses the method of claim 1 further comprising sending the information object to the client [column 23 «lines 14-23 and 54-63»].

8> As to claim 4, McCanne discloses the method of claim 3 wherein the request is received at an information object repository that is topologically closer to the client than any other information object repository [column 13 «line 45»].

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9> As to claim 5, McCanne discloses the method of claim 4 wherein the information object repository is selected according to specified performance metrics [column 21 «lines 58-62»].

10> As to claim 6, McCanne discloses the method of claim 5 wherein the performance metrics comprise one or more of: average delay from the selected information object repository to a source of the request, average processing delay at the selected information object repository, reliability of a path from the selected information object repository, available bandwidth in said path, and loads on the selected information object repository [column 21 «lines 58-62»].

11> As to claim 7, as it does not teach or further define over the previously claimed limitations, it is similarly rejected for at least the same reasons set forth for claim 1.

12> As to claim 8, McCanne discloses the information object repository of claim 8 being further configured to advertise the anycast address using a network layer anycast routing protocol [column 15 «lines 9-14»].

13> Claim 9 is a claim to for a network with elements that perform the steps of the method of claim 1. Therefore, claim 9 is rejected for the same reasons as set forth for claim 1, supra.

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14> Claim 11 is a claim for a network with an element that performs the step of the method of claim 4. Therefore, claim 11 is rejected for the same reasons as set forth for claim 4, *supra*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15> Claims 1, 3-9, and 11-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over McCanne et al, U.S Patent No. 6,415,323 ["McCanne"], in view of McCanne.2.

16> As to claim 1, McCanne discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 15 <lines 59-60>];

mapping the URL to a corresponding anycast address for the information object [column 15 <lines 59-65>];

resolving the anycast address for the information object to a unicast address for the information object [column 10 <lines 36-43> and column 16 <lines 9-12 and 27-29>];

McCanne discloses that the repository is enabled to directly service the client request

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[column 14 «lines 31-32»] but does not express disclose that the repository obtains the information object at the corresponding unicast address.

17> McCanne.2 is directed towards a content distribution system and specifically moving data streams from content producers to requesters of those streams. McCanne further discloses an information object repository that is enabled to directly obtain a copy of an information object at a corresponding unicast address [column 23 «lines 14-23 and 48-67»]. McCanne.2's cache corresponds to an information object repository, that interprets the URL request for an information object and subsequently retrieves the object from a particular Web server if the object is not currently located in the cache. It would have been obvious to one of ordinary skill in the art to modify McCanne with McCanne.2's enhanced repository capabilities. As discussed McCanne does disclose that the repository is capable of directly servicing client requests but was silent as to the functionality of such a capability. McCanne.2 clearly provides a teaching of such functionality that would enable McCanne's repository to directly retrieve requested information objects from a server.

18> As to claim 3, McCanne discloses the method of claim 1 further comprising sending the information object to the client [column 16 «lines 9-12»].

19> As to claim 4, McCanne discloses the method of claim 3 wherein the request is received at an information object repository that is topologically closer to the client than any

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other information object repository [claim 10 where: the nodes in the anycast group are equivalent to an information object repository].

20> As to claim 5, McCanne discloses the method of claim 4 wherein the information object repository is selected according to specified performance metrics [column 17 <lines 48-58 and claim 8].

21> As to claim 6, McCanne discloses the method of claim 5 wherein the performance metrics comprise one or more of: average delay from the selected information object repository to a source of the request, average processing delay at the selected information object repository, reliability of a path from the selected information object repository, available bandwidth in said path, and loads on the selected information object repository [column 17 «lines 48-58» and claim 8].

22> As to claim 7, as it does not teach or further define over the previously claimed limitations, it is similarly rejected for at least the same reasons set forth for claim 1.

23> As to claim 8, McCanne discloses the information object repository of claim 8 being further configured to advertise the anycast address using a network layer anycast routing protocol [column 12 <lines 44-54> and column 20 <lines 40-52>].

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24> Claim 9 is a claim to for a network with elements that perform the steps of the method of claim 1. Therefore, claim 9 is rejected for the same reasons as set forth for claim 1, *supra*.

25> Claim 11 is a claim for a network with an element that performs the step of the method of claim 4. Therefore, claim 11 is rejected for the same reasons as set forth for claim 4, *supra*.

26> As to claim 12, McCanne discloses the network of claim 11 further comprising a Web router configured to select the information object repository that is closer to the requesting client than any other of the number of information repositories in the network without regard as to whether the information object is actually stored at the selected information object repository [column 19 <lines 14-26> and column 20 <lines 55-58>].

27> Claim 13 is a claim for a network with an element that performs the step of the method of claim 5. Therefore, claim 13 is rejected for the same reasons as set forth for claim 5.

28> Claim 14 is a claim for a network with an element that performs the step of the method of claim 6. Therefore, claim 14 is rejected for at least the same reasons set forth for claim 6.

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29> Claims 1, 3-9, and 11-14 are rejected under 35 U.S.C § 103(a) as being unpatentable over McCanne et al, U.S Patent No. 6,415,323 ["McCanne"], in view of Yamano et al, U.S Patent No. 6,314,088 ["Yamano"].

30> As to claim 1, McCanne discloses a method, comprising:

receiving, at an information object repository, a request for an information object at an address identified by a uniform resource locator (URL) [column 15 <lines 59-60>];

mapping the URL to a corresponding anycast address for the information object [column 15 <lines 59-65>];

resolving the anycast address for the information object to a unicast address for the information object [column 10 <lines 36-43> and column 16 <lines 9-12 and 27-29>];

McCanne discloses that the repository is enabled to directly service the client request [column 14 «lines 31-32»] but does not expressly disclose that the repository obtains the information object at the corresponding unicast address.

31> Yamano discloses an information object repository that is enabled to directly obtain a copy of an information object at a corresponding unicast address [Figure 5 | column 5 «line 64» to column 6 «line 14»]. Yamano's server corresponds to an information object repository, that interprets the client's request for an information object and subsequently retrieves the object from a particular Web server if the object is not currently located in the originally contacted server by obtaining the ATM (unicast) address of the server. It would have been obvious to one of ordinary skill in the art to modify McCanne with Yamano's enhanced

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server capabilities. As discussed McCanne does disclose that his repository is capable of directly servicing client requests but was silent as to the functionality of such a capability. Yamano clearly provides a teaching of such functionality that would enable McCanne's repository to directly retrieve requested information objects from a server. Further, Yamano is directed at improving current anycast techniques for obtaining information [column 1 «lines 31-37»].

32> As to claims 3-9 and 11-14, see claim rejections above.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



Dung C. Dinh
Primary Examiner